



## **ADDENDUM #1**

**LANDMARK  
FACILITIES  
GROUP, INC.**

**DATE:** 3-19-19

**PROJECT:** Building Q Plumbing Upgrades  
BID #2238-19

**PREPARER:** Richard Sileo

**DISTRIBUTION:** All Bidders  
Eugene Watts, Dan Watson - GPS

**# OF PAGES:** 5 (This document + 3 drawing sheets)

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*NOTE: THIS INFORMATION IS TO BE USED AS A SUPPLEMENT TO THE CONTRACT DRAWINGS AND SPECIFICATIONS. THE CONTRACTOR IS RESPONSIBLE FOR FULL COMPLIANCE WITH ALL ORIGINAL CONTRACT REQUIREMENTS, INCLUDING ALL LOCAL AND STATE CODES. ALL PRIOR BID REQUIREMENTS, NOT MODIFIED HEREIN, SHALL APPLY.*

Please note the following clarifications to the project scope:

1. Replacement of the existing air compressor has been added to the project scope. Contractor shall be responsible for disconnection and removal of existing compressor and associated equipment. Refer to enclosed cut sheets for new air compressor and accessories. Equipment shall be set on existing concrete pad. Contractor shall reconnect the existing power feeders to the new compressor. Contractor shall replace the existing two 70A circuit breakers feeding the compressor with new 45A circuit breakers. The two new compressed air dryers shall be fed from the 208/120V, 3Ø, 4W panel in the same room with two new 20A branch circuits.
2. Replacement of the existing 5HP sanitary ejector pumps, already purchased and on site, has been added to the project scope. Contractor shall disconnect and remove (2) existing submersible pumps installed in the ejector tank and install the new pumps. Connect to existing power and control wiring that originates at existing duplex pump control panel on wall. All labor for this task should be based on overtime rates as work must be performed in the evening or on a weekend.
3. The following questions have been asked and answered during bidding:


Q1: On the Insurance Requirements Sheet you have checked that we need Professional Liability with minimum coverage of \$5,000,000. If the policy is on a claims-made basis, coverage shall be continually renewed or extended for three (3) years after work is completed under the Contract. This generally applies to a professional architect or engineer and not a general contractor. Please advise if we need to have this.

A1: Bidders are NOT required to carry Professional Liability insurance.

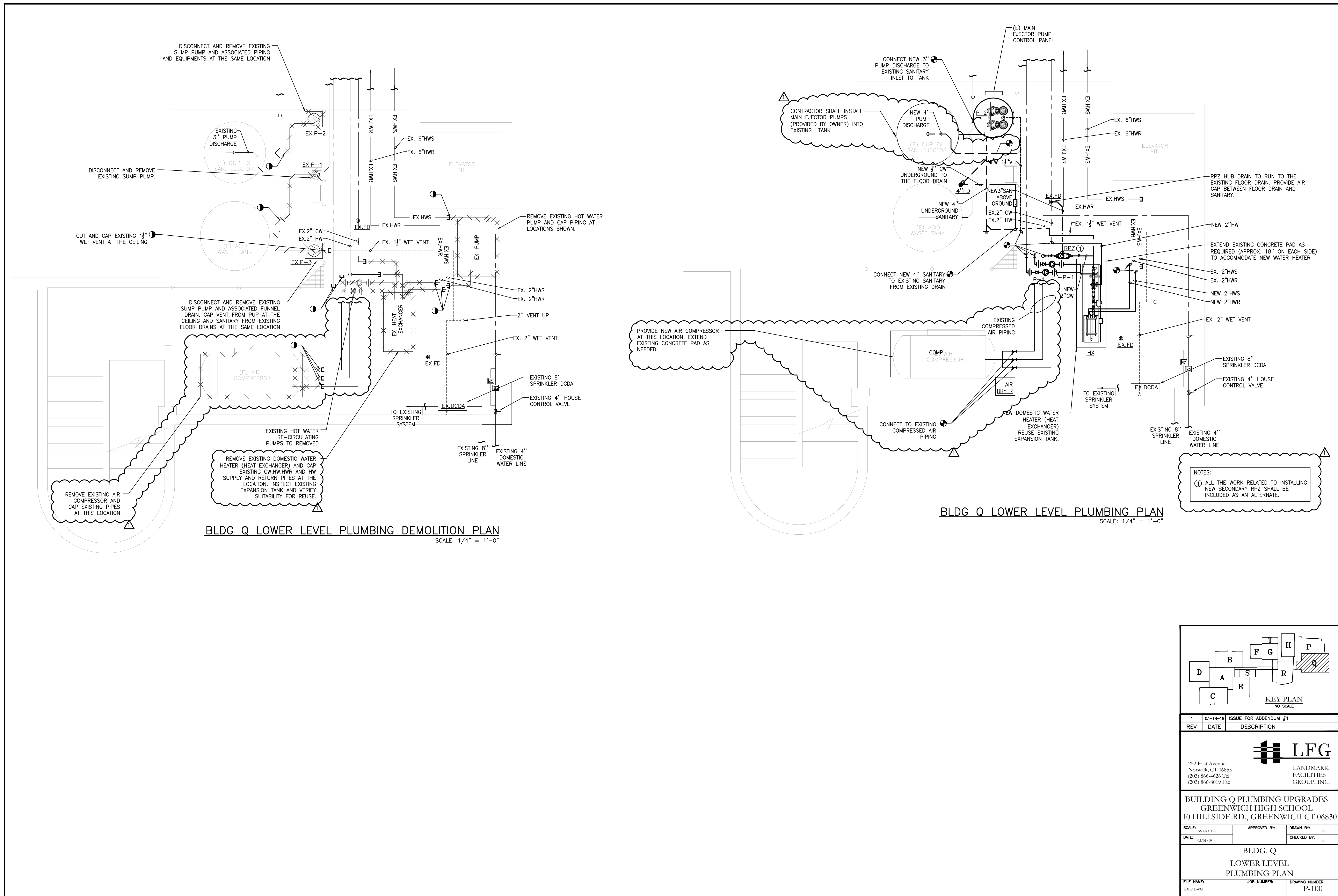
Q2: Is it possible to extend the bid due date to the following week?

A2: Yes, we will grant an extension to all bidders. PLEASE NOTE THAT THE NEW BID DUE DATE IS APRIL 5<sup>TH</sup> at 11:00am.

Thank you and good luck.

A handwritten signature in black ink, appearing to read "Richard A. Sileo". The signature is fluid and cursive, with the first name "Richard" being the most prominent.

Richard A. Sileo. PE  
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PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

- A. SECTION INCLUDES SURFACE PREPARATION AND APPLICATION OF HIGH–PERFORMANCE COATING SYSTEMS ON THE FOLLOWING SUBSTRATES: INTERIOR SUBSTRATES: STEEL.

1.3 ACTION SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE PREPARATION REQUIREMENTS AND APPLICATION INSTRUCTIONS.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. STORE MATERIALS NOT IN USE IN TIGHTLY COVERED CONTAINERS IN WELL–VENTILATED AREAS WITH AMBIENT TEMPERATURES CONTINUOUSLY MAINTAINED AT NOT LESS THAN 45 DEG F.
1. MAINTAIN CONTAINERS IN CLEAN CONDITION, FREE OF FOREIGN MATERIALS AND RESIDUE.
2. REMOVE RAGS AND WASTE FROM STORAGE AREAS DAILY.

1.5 FIELD CONDITIONS

- A. APPLY COATINGS ONLY WHEN TEMPERATURE OF SURFACES TO BE COATED AND SURROUNDING AIR TEMPERATURES ARE BETWEEN 50 AND 95 DEG F.

SANITARY WASTE AND VENT PIPING

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

- A. SECTION INCLUDES: PIPE, TUBE, AND FITTINGS.

1.3 PERFORMANCE REQUIREMENTS

- A. COMPONENTS AND INSTALLATION SHALL BE CAPABLE OF WITHSTANDING THE FOLLOWING MINIMUM WORKING PRESSURE UNLESS OTHERWISE INDICATED: WASTE, FORCE–MAIN PIPING: 50 PSIG.

PART 2 – PRODUCTS

2.1 PIPING MATERIALS

- A. COMPLY WITH REQUIREMENTS IN "PIPING SCHEDULE" ARTICLE FOR APPLICATIONS OF PIPE, TUBE, FITTING MATERIALS, AND JOINING METHODS FOR SPECIFIC SERVICES, SERVICE LOCATIONS, AND PIPE SIZES.

2.2 GALVANIZED–STEEL PIPE AND FITTINGS

- A. GALVANIZED–STEEL PIPE: ASTM A 53/A 53M, TYPE E, STANDARD WEIGHT CLASS. INCLUDE SQUARE–CUT–GROOVED OR THREADED ENDS MATCHING JOINING METHOD.
- B. GROOVED–JOINT, GALVANIZED–STEEL–PIPE APPURTENANCES:
1. GALVANIZED, GROOVED–END FITTINGS FOR GALVANIZED–STEEL PIPING: ASTM A 536 DUCTILE–IRON CASTINGS, ASTM A 47/A 47M MALLEABLE–IRON CASTINGS, ASTM A 234/A 234M FORGED STEEL FITTINGS, OR ASTM A 106/A 106M STEEL PIPES WITH DIMENSIONS MATCHING ASTM A 53/A 53M STEEL PIPE, AND COMPLYING WITH AWWA C606 FOR GROOVED ENDS.
2. GROOVED MECHANICAL COUPLINGS FOR GALVANIZED–STEEL PIPING: ASTM F 1476, TYPE I. INCLUDE FERROUS HOUSING SECTIONS WITH CONTINUOUS CURVED KEYS; EPDM–RUBBER GASKET SUITABLE FOR HOT AND COLD WATER; AND BOLTS AND NUTS.

PART 3 – EXECUTION

3.1 JOINT CONSTRUCTION

- A. GROOVED JOINTS: CUT GROOVE ENDS OF PIPE ACCORDING TO AWWA C606. LUBRICATE AND INSTALL GASKET OVER ENDS OF PIPES OR PIPE AND FITTING. INSTALL COUPLING HOUSING SECTIONS, OVER GASKET, WITH KEYS SEATED IN PIPING GROOVES. INSTALL AND TIGHTEN HOUSING BOLTS.

3.2 VALVE INSTALLATION

- A. SHUTOFF VALVES: INSTALL GATE VALVE FOR PIPING NPS 2–1/2 AND LARGER.
- B. CHECK VALVES: INSTALL SWING CHECK VALVE, BETWEEN PUMP AND SHUTOFF VALVE, ON EACH SEWAGE PUMP DISCHARGE.

3.3 HANGER AND SUPPORT INSTALLATION

1. INSTALL CARBON–STEEL PIPE HANGERS FOR HORIZONTAL PIPING IN NON–CORROSIVE ENVIRONMENTS.
- A. INSTALL HANGERS FOR STEEL PIPING WITH THE FOLLOWING MAXIMUM HORIZONTAL SPACING AND MINIMUM ROD DIAMETERS:
1. NPS 3: 12 FEET WITH 1/2–INCH ROD.
2. NPS 4 AND NPS 5: 12 FEET WITH 5/8–INCH ROD.
3. NPS 6 AND NPS 8: 12 FEET WITH 3/4–INCH ROD.

3.4 FIELD QUALITY CONTROL

- C. DURING INSTALLATION, NOTIFY AUTHORITIES HAVING JURISDICTION AT LEAST 24 HOURS BEFORE INSPECTION MUST BE MADE. PERFORM TESTS SPECIFIED BELOW IN PRESENCE OF AUTHORITIES HAVING JURISDICTION.
1. ROUGHING–IN INSPECTION: ARRANGE FOR INSPECTION OF PIPING BEFORE CONCEALING OR CLOSING–IN AFTER ROUGHING–IN AND BEFORE SETTING FIXTURES.
2. FINAL INSPECTION: ARRANGE FOR FINAL INSPECTION BY AUTHORITIES HAVING JURISDICTION TO OBSERVE TESTS SPECIFIED BELOW AND TO ENSURE COMPLIANCE WITH REQUIREMENTS.
- B. REINSPECTION: IF AUTHORITIES HAVING JURISDICTION FIND THAT PIPING WILL NOT PASS TEST OR INSPECTION, MAKE REQUIRED CORRECTIONS AND ARRANGE FOR REINSPECTION.
- C. REPORTS: PREPARE INSPECTION REPORTS AND HAVE THEM SIGNED BY AUTHORITIES HAVING JURISDICTION.
- D. TEST FORCE–MAIN PIPING ACCORDING TO PROCEDURES OF AUTHORITIES HAVING JURISDICTION OR, IN ABSENCE OF PUBLISHED PROCEDURES, AS FOLLOWS:
1. LEAVE UNCOVERED AND UNCONCEALED NEW, ALTERED, EXTENDED, OR REPLACED FORCE–MAIN PIPING UNTIL IT HAS BEEN TESTED AND APPROVED. EXPOSE WORK THAT WAS COVERED OR CONCEALED BEFORE IT WAS TESTED.
2. CAP AND SUBJECT PIPING TO STATIC–WATER PRESSURE OF 50 PSIG ABOVE OPERATING PRESSURE, WITHOUT EXCEEDING PRESSURE RATING OF PIPING SYSTEM MATERIALS. ISOLATE TEST SOURCE AND ALLOW TO STAND FOR FOUR HOURS. LEAKS AND LOSS IN TEST PRESSURE CONSTITUTE DEFECTS THAT MUST BE REPAIRED.
3. REPAIR LEAKS AND DEFECTS WITH NEW MATERIALS AND RETEST PIPING, OR PORTION THEREOF, UNTIL SATISFACTORY RESULTS ARE OBTAINED.
4. PREPARE REPORTS FOR TESTS AND REQUIRED CORRECTIVE ACTION.

3.5 PIPING SCHEDULE

- A. FLANGES AND UNIONS MAY BE USED ON ABOVEGROUND PRESSURE PIPING UNLESS OTHERWISE INDICATED.
- B. SANITARY DRAINAGE AND VENT
1. INSTALL SANITARY AND VENT PIPES AT PROPER SLOPES PER CONNECTICUT PLUMBING CODE
- C. ABOVE GROUND
1. CAST IRON PIPE: NO–HUB WITH SCHEDULE 40 PIPE AND FITTINGS.
2. NEOPRENE GASKET WITH 4–BAND CLAMPS ON ALL RISERS. 2–BAND CLAMPS ACCEPTABLE ON HORIZONTAL PIPES RUN ONLY.

D. UNDERGROUND

1. POLYVINYL CHLORIDE PIPE (PVC): PLASTIC PIPE WITH SCHEDULE 40 PIPE AND FITTINGS. COMPLYING TO THE STANDARD ASTM D2665 WITH A SOLID, CELLULAR CORE OR COMPOSITE WALL.
- E. COMPLY WITH NFPA 99.

1. FOR CLASSROOM AND SHOP AIR, ALL POSITIVE PRESSURE COMPRESSED AIR PIPING, TUBING, AND FITTINGS SHALL HAVE BEEN MANUFACTURER CLEANED, PURGED, AND SEALED AS FOR OXYGEN SERVICE, ACCORDING TO CGA G–4.1.
- a. EACH LENGTH OF TUBING SHALL BE DELIVERED PLUGGED OR CAPPED BY THE MANUFACTURER AND KEPT SEALED UNTIL PREPARED FOR INSTALLATION.
- b. FITTINGS AND OTHER COMPONENTS SHALL BE DELIVERED MANUFACTURER SEALED AND LABELED, AND KEPT SEALED UNTIL PREPARED FOR INSTALLATION.
- B. COPPER MEDICAL GAS TUBE: ASTM B 819, TYPE K, SEAMLESS, DRAWN TEMPER. INCLUDE STANDARD COLOR MARKING "MED" OR "OXY/MED" IN GREEN FOR TYPE K TUBE AND IN BLUE FOR TYPE L TUBE.
- C. WROUGHT–COPPER FITTINGS: ASME B16.22, SOLDER–JOINT PRESSURE TYPE.
- D. COPPER UNIONS: ASME B16.22 OR MSS SP–123, WROUGHT–COPPER OR CAST–COPPER ALLOY.

SUMP PUMPS

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. DRAWINGS AND GENERAL PROVISIONS OF THE CONTRACT, INCLUDING GENERAL AND SUPPLEMENTARY CONDITIONS AND DIVISION 01 SPECIFICATION SECTIONS, APPLY TO THIS SECTION.

1.2 SUMMARY

- A. SECTION INCLUDES: SUBMERSIBLE SUMP PUMPS AND CONTROLS.

1.3 ACTION SUBMITTALS

- A. PRODUCT DATA: FOR EACH TYPE OF PRODUCT INDICATED. INCLUDE CONSTRUCTION DETAILS, MATERIAL DESCRIPTIONS, DIMENSIONS OF INDIVIDUAL COMPONENTS AND PROFILES, INCLUDE RATED CAPACITIES, OPERATING CHARACTERISTICS, ELECTRICAL CHARACTERISTICS, AND FURNISHED SPECIALTIES AND ACCESSORIES.
- WIRING DIAGRAMS: FOR POWER, SIGNAL, AND CONTROL WIRING.

1.4 CLOSEOUT SUBMITTALS

- A. OPERATION AND MAINTENANCE DATA: FOR PUMPS AND CONTROLS, TO INCLUDE IN OPERATION AND MAINTENANCE MANUALS.

1.5 QUALITY ASSURANCE

- A. ELECTRICAL COMPONENTS, DEVICES, AND ACCESSORIES: LISTED AND LABELED AS DEFINED IN NFPA 70, BY A QUALIFIED TESTING AGENCY, AND MARKED FOR INTENDED LOCATION AND APPLICATION.
- B. UL COMPLIANCE: COMPLY WITH UL 778 FOR MOTOR–OPERATED WATER PUMPS.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. RETAIN SHIPPING FLANGE PROTECTIVE COVERS AND PROTECTIVE COATINGS DURING STORAGE.
- B. PROTECT BEARINGS AND COUPLINGS AGAINST DAMAGE.
- C. COMPLY WITH PUMP MANUFACTURER'S WRITTEN RIGGING INSTRUCTIONS FOR HANDLING.

1.7 COORDINATION

- A. COORDINATE SIZES AND LOCATIONS OF CONCRETE BASES WITH ACTUAL EQUIPMENT PROVIDED.

PART 2 – PRODUCTS

2.1 SUBMERSIBLE STORM WATER PUMPS

- A. SUBMERSIBLE, QUICK–DISCONNECT, SEMI–PERMANENT PORTABLE, DOUBLE–SEAL SUMP PUMPS:
1. BASIS–OF–DESIGN PRODUCT: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, PROVIDE PRODUCT INDICATED ON DRAWINGS OR COMPARABLE PRODUCT BY ONE OF THE FOLLOWING:
- a. ZOELLER MODEL#6189
2. DESCRIPTION: FACTORY–ASSEMBLED AND –TESTED SEWAGE–PUMP UNIT WITH GUIDE–RAIL SUPPORTS.
3. PUMP TYPE: SUBMERSIBLE, END–SUCTION, SINGLE–STAGE, CLOSE–COUPLED, OVERHUNG–IMPELLER, CENTRIFUGAL SUMP PUMP AS DEFINED IN HI 1.1–1.2 AND HI 1.3.
4. PUMP CASING: CAST IRON, WITH OPEN INLET, AND DISCHARGE FITTINGS FOR CONNECTION TO GUIDE–RAIL SUPPORT.
5. IMPELLER: STATICALLY AND DYNAMICALLY BALANCED,NEMA B, BRONZE VORTEX , RPM 3450
6. PUMP AND MOTOR SHAFT: STAINLESS STEEL 416 S.S
7. SEALS: MECHANICAL.
8. MOISTURE–SENSING PROBE: OPTIONAL MUST BE INCLUDED IN BID PRICE. INTERNAL MOISTURE SENSOR AND MOISTURE ALARM.
9. MOTOR: OIL–FILLED, HERMETICALLY SEALED, CAPACITOR–START TYPE; WITH BUILT–IN OVERLOAD PROTECTION; LIFTING EYE OR LUG; AND THREE–CONDUCTOR, WATERPROOF POWER CABLE OF LENGTH REQUIRED AND WITH GROUNDING PLUG AND CABLE–SEALING ASSEMBLY FOR CONNECTION AT PUMP.
- a. MOTOR HOUSING FLUID: OIL.
- b. COMPLY WITH NEMA B DESIGNATION, TEMPERATURE RATING, SERVICE FACTOR, ENCLOSURE TYPE, AND EFFICIENCY REQUIREMENTS FOR MOTORS.
- c. MOTOR SIZES: MINIMUM SIZE AS INDICATED. IF NOT INDICATED, LARGE ENOUGH SO DRIVEN LOAD WILL NOT REQUIRE MOTOR TO OPERATE IN SERVICE FACTOR RANGE ABOVE 1.0.

10. CONTROLS:

- a. ENCLOSURE: NEMA 250, TYPE 1; WALL–MOUNTED.
- b. SWITCH TYPE: MECHANICAL–FLOAT TYPE, IN NEMA 250, TYPE 6 ENCLOSURES WITH MOUNTING ROD AND ELECTRIC CABLES. INCLUDE DOUBLE CONTAINMENT SPICE BOX, AND FPS PRESSURE TRANSDUCER.
- c. AUTOMATIC ALTERNATOR: START ALTERNATING PUMPS ON SUCCESSIVE CYCLES. NON–SIMULTANEOUS OPERATION IS NOT REQUIRED.
- d. HIGH–WATER ALARM: ROD–MOUNTED, NEMA 250, TYPE 6 ENCLOSURE WITH MECHANICAL–FLOAT SWITCH MATCHING CONTROL AND ELECTRIC BELL; WITH TRANSFORMER AND CONTACTS FOR REMOTE ALARM BELL.
- e. INCLUDE ACROSS THE LINE MOTOR STARTERS.

11. CONTROL–INTERFACE FEATURES:

- a. REMOTE ALARM CONTACTS: FOR REMOTE ALARM INTERFACE.
- b. BUILDING AUTOMATION SYSTEM INTERFACE: AUXILIARY CONTACTS IN PUMP CONTROLS FOR INTERFACE TO BUILDING AUTOMATION SYSTEM AND CAPABLE OF PROVIDING THE FOLLOWING:
- 1) ON–OFF STATUS OF PUMP.
- 2) HIGH WATER ALARM STATUS.

B. CAPACITIES AND CHARACTERISTICS:

13. UNIT CAPACITY: 140 GPM FOR 10 FEET HEAD LOSS.
14. NUMBER OF PUMPS: TWO.
15. EACH PUMP:
- l. CAPACITY: 140 GPM FOR 10 FEET HEAD LOSS.
- m. TOTAL DYNAMIC HEAD: 10 FEET.
- n. DISCHARGE PIPE SIZE: 3 INCH.
- o. MOTOR HORSEPOWER: 2.
- p. ELECTRICAL CHARACTERISTICS: VOLTS: 460, PHASES: 3, HERTZ: 60.

2.2 SUMP (BASIN) COVERS

- A. BASIN COVERS: FABRICATE METAL COVER WITH OPENINGS HAVING GASKETS, SEALS, AND BUSHINGS; FOR ACCESS TO PUMPS, CONTROL RODS, DISCHARGE PIPING, VENT CONNECTIONS, AND POWER CABLES. COVER MUST BE GAS TIGHT.
1. COVER MAY BE PARTIAL ACCESS HATCH AND PARTIAL BLANK DIAMOND PLATE FOR PIPE AND CONDUIT PASS THROUGH.
- B. MANUFACTURERS: SUBJECT TO COMPLIANCE WITH REQUIREMENTS, AVAILABLE MANUFACTURERS OFFERING PRODUCTS THAT MAY BE INCORPORATED INTO THE WORK INCLUDE, BUT ARE NOT LIMITED TO, THE FOLLOWING:
1. CENTRI PRO
- D. FLOOR DOORS, GENERAL: EQUIP EACH DOOR WITH ADJUSTABLE COUNTERBALANCING SPRINGS, HEAVY–DUTY HOLD–OPEN ARM THAT AUTOMATICALLY LOCKS DOOR OPEN AT 90 DEGREES, RELEASE HANDLE WITH RED VINYL GRIP THAT ALLOWS FOR ONE–HANDED CLOSURE, AND RECESSED LIFT HANDLE.
- E. GASTIGHT ALUMINUM FLOOR DOOR: SINGLE–LEAF OPENING. EXTRUDED–ALUMINUM GUTTER FRAME WITH NPS 1–1/2 DRAINAGE COUPLING AND 1/4–INCH–THICK, DIAMOND–PATTERN, ALUMINUM TREAD PLATE DOOR; GAS TIGHT; LOADING CAPACITY TO SUPPORT 150–LBF/SQ. FT. PEDESTRIAN LIVE LOAD.
- F. HARDWARE: PROVIDE THE FOLLOWING:
1. HINGES: HEAVY–DUTY, ALUMINUM BUTT HINGES WITH STAINLESS–STEEL PINS.

2. LATCH: STAINLESS–STEEL SLAM LATCH WITH LOOSE TEE HANDLE.
3. LOCK: NONE.
- HARDWARE MATERIAL: MANUFACTURER'S STANDARD.
- G. ALUMINUM EXTRUSIONS: ASTM B 221, ALLOY 6063–T6.
- H. ALUMINUM–ALLOY ROLLED TREAD PLATE: ASTM B 632/B 632M, ALLOY 6061–T6.
- I. ALUMINUM SHEET: ASTM B 209, ALLOY AND TEMPER RECOMMENDED BY ALUMINUM PRODUCER AND FINISHER FOR TYPE OF USE AND FINISH INDICATED, AND WITH NOT LESS THAN STRENGTH AND DURABILITY PROPERTIES OF ALLOY 5005–H15; WITH MINIMUM SHEET THICKNESS ACCORDING TO ANSI H35.2.
- J. FRAME ANCHORS: SAME TYPE AS DOOR FACE.
- K. INSERTS, BOLTS, AND ANCHOR FASTENERS: HOT–DIP GALVANIZED STEEL ACCORDING TO ASTM A 153/A 153M OR ASTM F 2329.

PART 3 – EXECUTION

3.1 EXAMINATION

- A. EXAMINE ROUGHING–IN FOR PLUMBING PIPING TO VERIFY ACTUAL LOCATIONS OF SANITARY DRAINAGE AND VENT PIPING CONNECTIONS BEFORE SEWAGE PUMP INSTALLATION.

3.2 INSTALLATION

- A. PUMP INSTALLATION STANDARDS:
1. COMPLY WITH HI 1.4 FOR INSTALLATION OF CENTRIFUGAL PUMPS.
- B. WIRING WITHIN ENCLOSURES: BUNDLE, LACE, AND TRAIN CONDUCTORS TO TERMINAL POINTS WITH NO EXCESS AND WITHOUT EXCEEDING MANUFACTURER'S LIMITATIONS ON BENDING RADII. PROVIDE AND USE LACING BARS AND DISTRIBUTION SPOOLS.

3.3 CONNECTIONS

- A. DRAWINGS INDICATE GENERAL ARRANGEMENT OF PIPING, FITTINGS, AND SPECIALTIES.
- B. INSTALL PIPING ADJACENT TO EQUIPMENT TO ALLOW SERVICE AND MAINTENANCE.

3.4 FIELD QUALITY CONTROL

- A. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT, TEST, AND ADJUST COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS.
- B. PERFORM TESTS AND INSPECTIONS.
1. MANUFACTURER'S FIELD SERVICE: ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO INSPECT COMPONENTS, ASSEMBLIES, AND EQUIPMENT INSTALLATIONS, INCLUDING CONNECTIONS, AND TO ASSIST IN TESTING.
- C. TESTS AND INSPECTIONS:
1. PERFORM EACH VISUAL AND MECHANICAL INSPECTION.
2. LEAK TEST: AFTER INSTALLATION, CHARGE SYSTEM AND TEST FOR LEAKS. REPAIR LEAKS AND RETEST UNTIL NO LEAKS EXIST.
3. OPERATIONAL TEST: AFTER ELECTRICAL CIRCUITRY HAS BEEN ENERGIZED, START UNITS TO CONFIRM PROPER MOTOR ROTATION AND UNIT OPERATION.
4. TEST AND ADJUST CONTROLS AND SAFETIES. REPLACE DAMAGED AND MALFUNCTIONING CONTROLS AND EQUIPMENT.
- D. PUMPS AND CONTROLS WILL BE CONSIDERED DEFECTIVE IF THEY DO NOT PASS TESTS AND INSPECTIONS.
- E. PREPARE TEST AND INSPECTION REPORTS.

3.5 STARTUP SERVICE

1. COMPLETE INSTALLATION AND STARTUP CHECKS ACCORDING TO MANUFACTURER'S WRITTEN INSTRUCTIONS.
2. ENGAGE A FACTORY–AUTHORIZED SERVICE REPRESENTATIVE TO PERFORM STARTUP SERVICE.

3.6 ADJUSTING

- A. ADJUST PUMPS TO FUNCTION SMOOTHLY AND LUBRICATE AS RECOMMENDED BY MANUFACTURER.
- B. ADJUST CONTROL SET POINTS.

DOMESTIC WATER HEATER

PART 2 – PRODUCTS:

- 2.1 WATER HEATER, HEAT EXCHANGER: ARMSTRONG DIGITAL–FLO MODEL #DF65WDW50
- A. WATER HEATER SHALL HAVE A 10–YEAR HEAT EXCHANGER AND 3–YEAR PARTS FOR COMMERCIAL USE PER WATER HEATER IS RATED FOR 150 PSI WORKING WATER PRESSURE AND 300 PSI TEST PRESSURE. ALL NPE "A" MODELS SHALL INCLUDE AN INTERNAL CIRCULATION PUMP AND 0.5 GALLON BUFFER TANK. THE WATER HEATER SHALL BE CONTROLLED BY AN INTERNAL CIRCUIT BOARD THAT MONITORS THE INLET AND OUTLET TEMPERATURES WITH INSTALLED THERMISTORS.
- 2.2 THERMAL EXPANSION TANK, ET1:
- A. THERMAL EXPANSION TANK: AMTROL, STEEL SHELL, HEAVY DUTY BUTYL NSF/ANSI 61 DIAPHRAGM, IN–LINE MOUNTING, MAX. TEMP 200 °F, POLYPROPYLENE LINER, SCHRAEDER VALVE, 150 PSIG WORKING PRESSURE, DESIGNED AND CONSTRUCTED PER ASME CODE SECTION VIII, DIVISION 1.

6. DOMESTIC WATER PIPE AND FITTINGS:

1. TYPE L HARD COPPER TUBING WITH CAST BRONZE OR WROUGHT COPPER FITTINGS AND 95/5 TIN ANTIMONY SOLDER JOINTS.
- C. ALL EXPOSED PIPE AND FITTINGS SHALL BE CHROME PLATED BRASS.
- D. ALL EXPOSED PIPING PASSING THROUGH WALLS, FLOORS, CEILINGS, AND PARTITIONS SHALL BE PROVIDED WITH CHROME PLATED CAST BRASS ESCUTCHEONS HELD IN PLACE WITH SET SCREWS.
- E. PROVIDE 18" MINIMUM SPUN CLOSED AIR CHAMBERS INSTALLED ON EACH WATER SUPPLY PIPE AT ALL LAVATORY AND SINK FIXTURES.
- F. PROVIDE STAINLESS STEEL WATER HAMMER ARRESTOR WITH DIELECTRIC FITTINGS CAPABLE OF BOTH VERTICAL AND HORIZONTAL INSTALLATION, ON ALL PIPING RUN WITH QUICK CLOSING VALVES. SIZE PER MANUFACTURE RECOMMENDATION. (OR 18 MIN. SPUN CLOSED AIR CHAMBERS MAY INSTALLED ON EACH WATER SUPPLY.
7. VALVES:
- A. BALL VALVES:
1. TWO–PIECE, BRONZE, END ENTRY, 600 PSI WWP; SIMILAR TO STOCKHAM #S–216 BR–R–T, #S–216 BR–R–S.
- B. CHECK VALVES:
1. BRONZE, THREADED CAP, TEFLON DISC; SIMILAR TO STOCKHAM #B310T, B–320T.
8. INSULATION:
- A. ALL INSULATION (INCLUDING JACKET, FACING AND ADHESIVE) SHALL HAVE PROCEDURES LISTED IN ASTM E–84, NFPA 255 AND UL 273; NOT EXCEEDING A FLAME SPREAD OF 25 AND A SMOKE DEVELOPED OF 50.
- B. ON VALVES AND FITTINGS PROVIDE PRE–MOLDED FIBERGLASS FITTINGS. VAPOR SEAL INSULATION ON CW AND HW.
- C. CW PIPING: PROVIDE 1 IN. THICK FIBERGLASS SECTION PIPE COVERING WITH VAPOR BARRIER JACKET.
- D. HW PIPING: PROVIDE 1 IN. THICK FIBERGLASS SECTIONAL PIPE COVERING.
9. PLUMBING FIXTURES:

- A. PROVIDE ALL FIXTURES WITH STOP VALVES AND SUPPLIES AND FIXTURE TRAPS AS REQUIRED.

- B. ALL FIXTURES WILL BE SUPPLIED BY OWNER BY DESIGN BUILDER (KIMBALL CONSTRUCTION).
- C. PROVIDE ALL COPPER SPUN CLOSED AIR CHAMBERS ON ALL FIXTURE SUPPLY PIPES. AIR CHAMBER SHALL BE 18 INCH LONG MINIMUM.
- D. PROVIDE ALL WATTS MODEL LF05 LEAD FREE WATER HAMMER ARRESTOR ON ALL FIXTURE SUPPLY PIPES, INCLUDING WASHING MACHINE AND DISHWASHER SUPPLY.
10. WATER HEATER:
- A. DOMESTIC WATER HEAT EXCHANGER WATER HEATER, ARMSTRONG DIGITAL–FLO MODEL #DF65WDW50 TO INSTALLED AS PER MANUFACTURERS SUGGESTIONS.
11. PIPING SUPPORTS:
- A. SUPPORT ALL PIPING FROM BUILDING CONSTRUCTION BY PROVIDING INSERTS, BEAM CLAMPS, STEEL FISHPLATES (IN CONCRETE FILL ONLY), AND ACCEPTABLE BRACKETS. SUBMIT ALL METHODS FOR REVIEW.
- B. PROVIDE TRAPEZE HANGERS FOR BOLTED ANGLES OR CHANNELS FOR GROUPED LINES AND SERVICES.
- C. PROVIDE ADDITIONAL FRAMING WHERE BUILDING CONSTRUCTION IS INADEQUATE. SUBMIT FOR REVIEW.
- D. SUSPENDED HORIZONTAL PIPING:
1. SUPPORT ALL PIPING INDEPENDENTLY FROM STRUCTURE USING HEAVY IRON–HINGED TYPE HANGERS, SIMILAR TO ANVIL INTERNATIONAL CLEVIS NO. 260.
2. PROVIDE ELECTROPLATED SOLID–BAND HANGERS SIMILAR TO AUTO–GRIP, FOR TWO–INCH AND SMALLER PIPE.

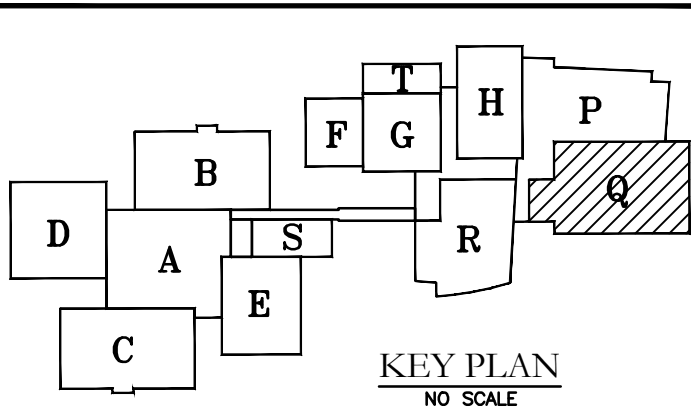
3. PROVIDE WALL BRACKETS FOR WALL SUPPORTED PIPING AND PROVIDE PIPE SADDLES FOR FLOOR MOUNTED PIPING.
4. PROVIDE SUPPORTS WITH COPPER LINING FOR UN–INSULATED COPPER PIPING.
5. SUSPEND PIPING FROM INSERTS, USING BEAM CLAMPS WITH RETAINING CLAMP OR LOCKNUT, STEEL FISHPLATES, CANTILEVER BRACKETS OR OTHER ACCEPTED MEANS. BEAM CLAMPS SHALL BE SIMILAR TO ANVIL INTERNATIONAL MODELS 14, 133, 134, OR 227.
6. C–CLAMPS SHALL ONLY BE PROVIDED AND APPROVED WITH A MINIMUM OF THE FOLLOWING COMPONENTS: CLAMP WITH SET SCREW AND LOCK NUT, AND RETAINING CLAMP. CLAMP SHALL BE ANVIL INTERNATIONAL MODEL 86 WITH 89X RETAINING STRAP. (THE INSTALLATION OF C–CLAMPS WITHOUT LOCK NUT OF RETAINING STRAP IS NOT APPROVED).
7. SUSPEND PIPING BY RODS WITH DOUBLE NUTS.
8. PROVIDE ADDITIONAL STEEL FRAMING AS REQUIRED AND ACCEPTED WHERE OVERHEAD CONSTRUCTION DOES NOT PERMIT FASTENING HANGER RODS IN REQUIRED LOCATIONS.
9. SUPPORT BRANCH FIXTURE WATER PIPING IN CHASES WITH COPPER–PLATED METAL BRACKETS, SECURED TO STUDS, SIMILAR TO HOLD RITE NOS. 102–18, 107–18, 102–26, OR 101–26.
- E. PROVIDE 180 DEGREE ARC GALVANIZED METAL COVERING SHIELDS ON HANGERS FOR INSULATED PIPING WITHOUT INCOMPRESSIBLE INSULATING BLOCK IN INSULATION AT HANGERS.
- F. MAXIMUM HANGER SPACING AS INDICATED.
1. PIPE 1 INCH AND SMALLER SHALL BE EVERY 8 FEET.
2. PIPE 1–1/4 INCH AND LARGER SHALL BE EVERY 10 FEET.
3. COPPER TUBING 1–1/4 INCH AND SMALLER SHALL BE EVERY 6 FEET.
4. COPPER TUBING 1–1/2 INCH AND LARGER SHALL BE EVERY 10 FEET.
5. CAST IRON: EVERY FIVE FEET AND AT EVERY FITTING OR JOINT.
- G. VERTICAL PIPING:
1. PROVIDE SPACING AS INDICATED:
- a. THREADED PIPING SHALL BE EVERY OTHER FLOOR LEVEL, AT A MAXIMUM OF 25 FEET ON CENTERS.
- b. CAST IRON PIPING SHALL BE EVERY FLOOR LEVEL, MAXIMUM 20 FEET ON CENTERS; HUBLESS PIPE IS THE EXCEPTION, REQUIRING A MAXIMUM OF 10 FEET ON CENTERS.
- c. TUBING SHALL BE EVERY FLOOR LEVEL MAXIMUM TEN FEET ON CENTERS.

H. EXPANSION ANCHORS:


1. PROVIDE SMOOTH WALL, NON–SELF DRILLING INTERNAL PLUG EXPANSION TYPE ANCHORS CONSTRUCTED OF AISC 12L14 STEEL AND ZINC PLATED IN ACCORDANCE WITH FED. SPEC. QQ–A–325 TYPE 1, CLASS 3.
2. DO NOT EXCEED 1/4 OF AVERAGE VALVES FOR A SPECIFIC ANCHOR SIZE USING 2000 PSIG CONCRETE ONLY, FOR MAXIMUM WORKING LOADS.
3. PROVIDE SPACING AND INSTALL ANCHORS IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
4. EXPANSION ANCHORS SHALL BE U.L. LISTED AND SIMILAR TO HILTI HDI.

A. DOMESTIC WATER PIPING:

1. TEST PIPING HYDROSTATICALLY AT A PRESSURE OF 125 PSI.
2. DURATION OF TEST SHALL BE 2 HOURS WITHOUT A LOSS IN PRESSURE.
- B. DRAINAGE AND VENT PIPING:
1. CAP ALL OUTLETS AND FILL PIPING SYSTEM TO OVERFLOWING FROM A POINT AT LEAST 10 FEET ABOVE THE FLOOR.
12. TESTS:
2. THE WATER LEVEL SHALL REMAIN CONSTANT THROUGHOUT THE TEST DURATION OF 2 HOURS.
- C. ARRANGE AND COORDINATE TESTS WITH OWNER 48 HOURS IN ADVANCE NOTIFY ENGINEER AND ARCHITECT OF TEST AND DATE TIME.



1	03–18–19	ISSUE FOR ADDENDUM #1
REV	DATE	DESCRIPTION



252 East Avenue  
Norwalk, CT 06855  
(203) 866-4626 Tcd  
(203) 866-8019 Fax

LANDMARK  
FACILITIES  
GROUP, INC.

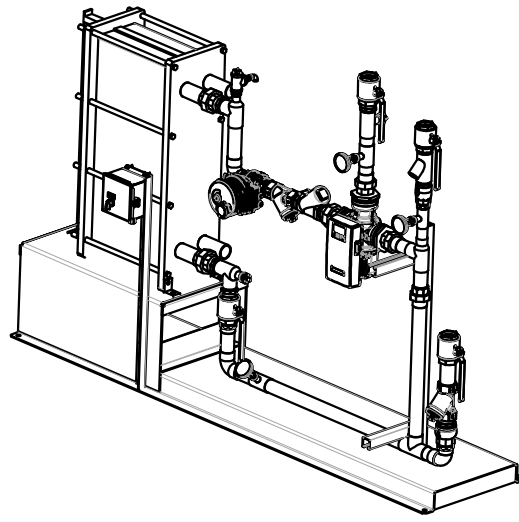
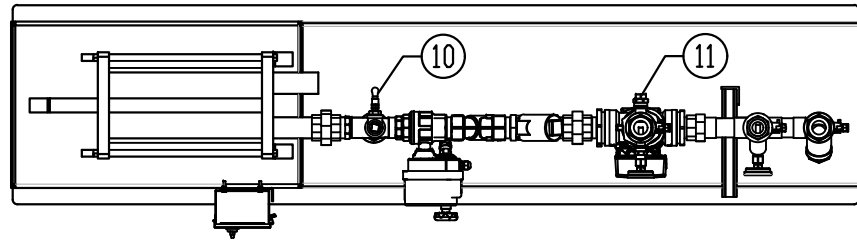
BUILDING Q PLUMBING UPGRADES  
GREENWICH HIGH SCHOOL  
10 HILLSIDE RD., GREENWICH CT 06830

SCALE: AS NOTED	APPROVED BY:	DRAWN BY: LFG
DATE: 02/01/19		CHECKED BY: LFG

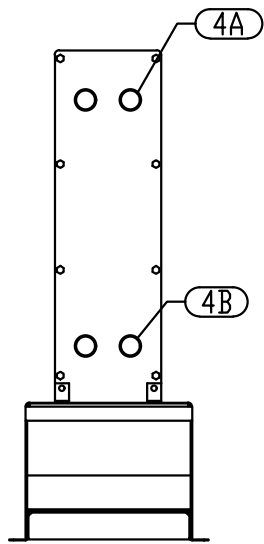
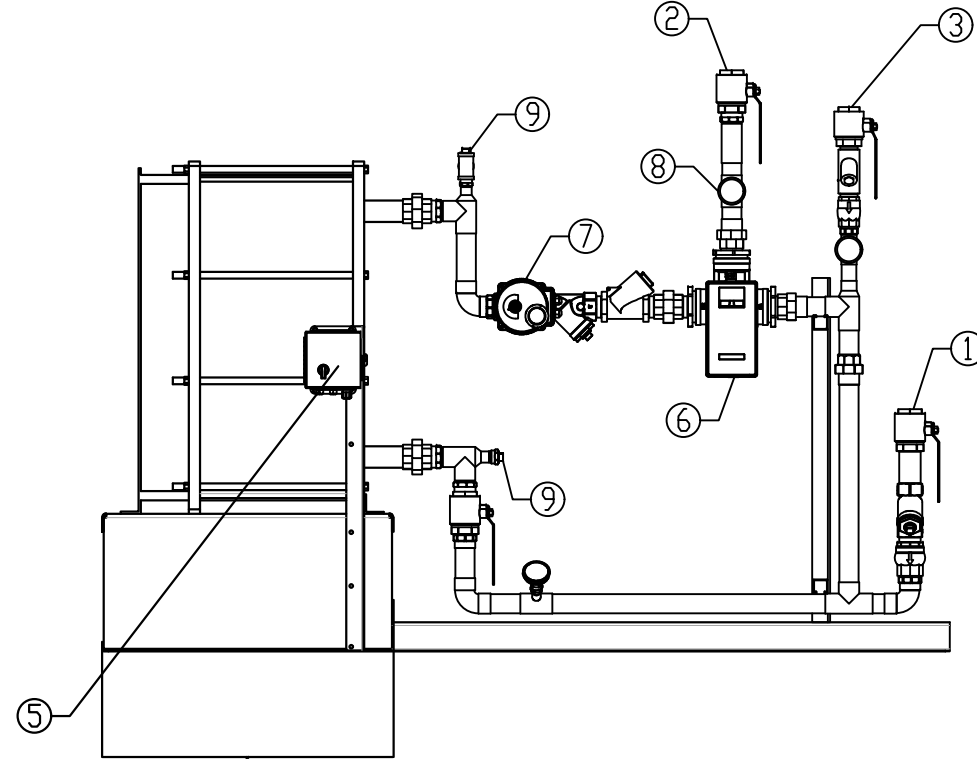
PLUMBING  
SPECIFICATIONS

FILE NAME: LDR19DWG	JOB NUMBER:	DRAWING NUMBER: P-300
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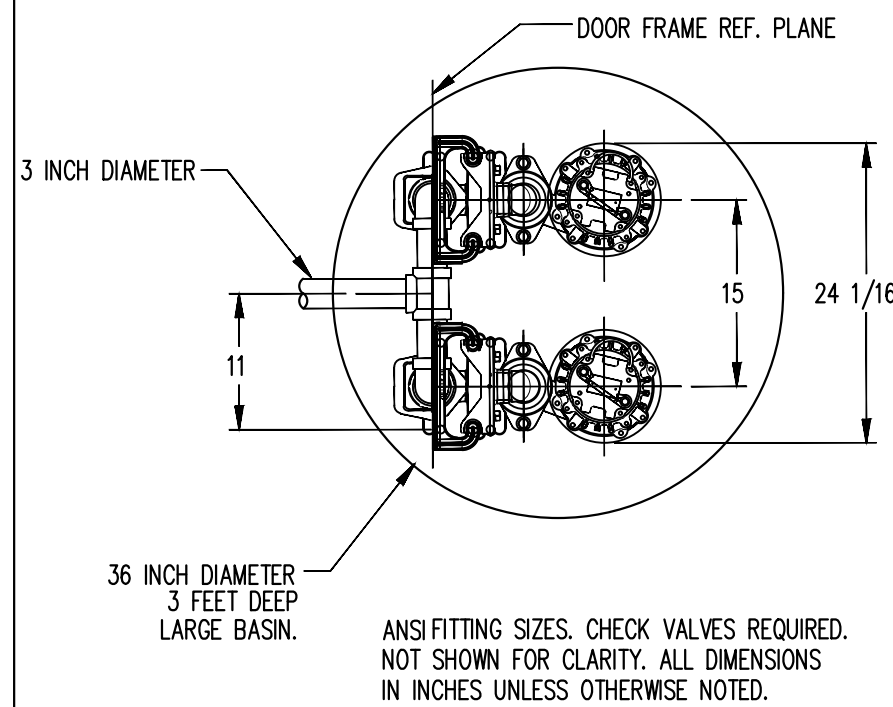
DIGITAL FLO BOILER WATER/WATER PLATE &  
FRAME HEAT EXCHANGER DOUBLE WALL



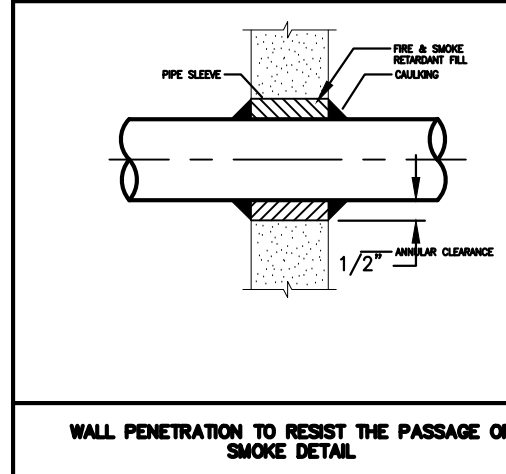
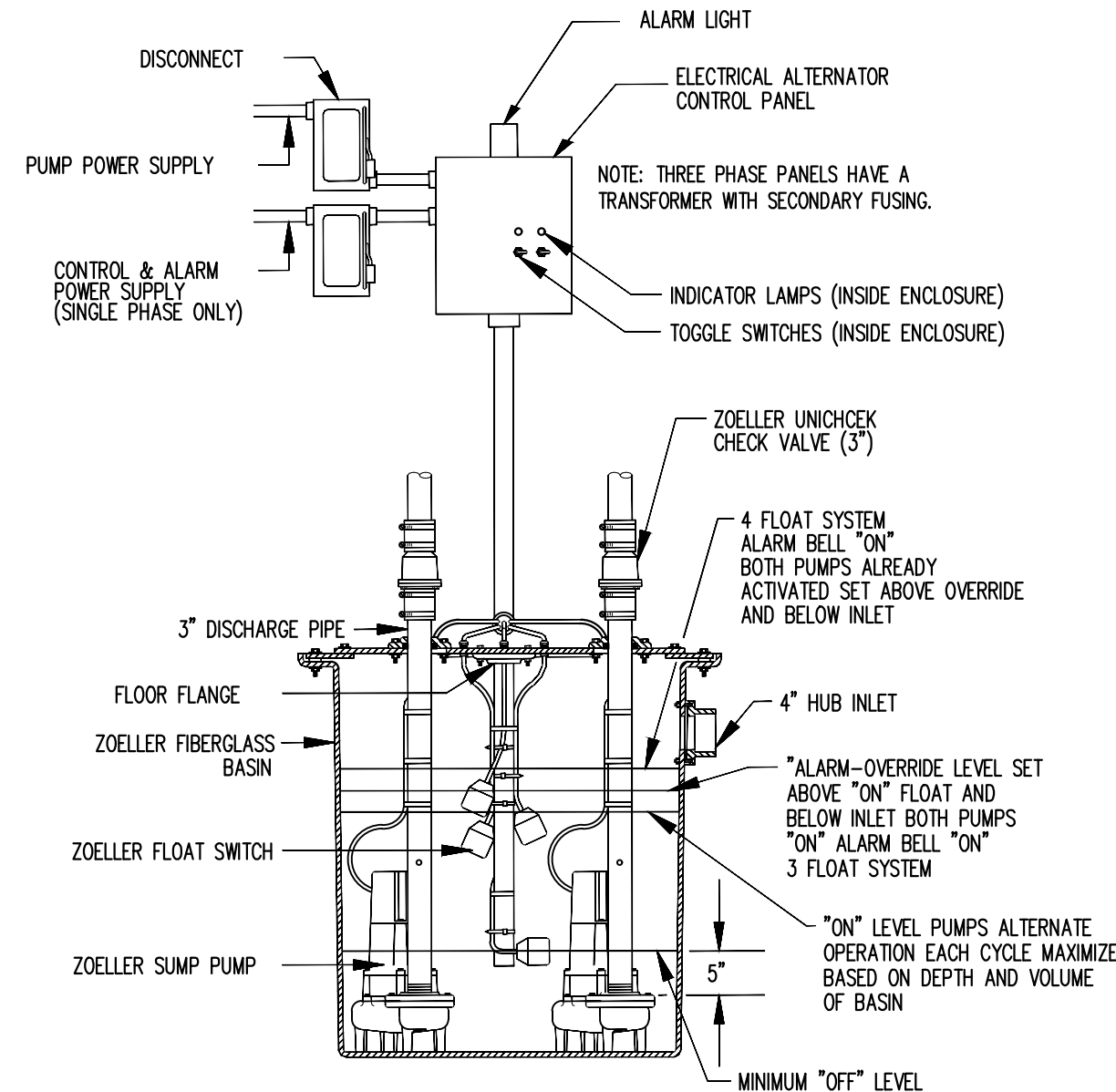
ITEM	DESCRIPTION	CONNECTION
1	COLD WATER INLET	2" NPT
2	MIXED WATER OUTLET	2" NPT
3	RECIRC WATER INLET	1-1/2" NPT
4A	PRIMARY(BOILER) INLET	2" NPT
4B	PRIMARY(BOILER) OUTLET	2" NPT
5	ELECTRICAL PANEL	110VAC @ 0.7A
6	DRYSD	3" NPT
7	N.C. ACTUATED BALL VALVE SAFETY SHUT OFF	2" NPT
8	THERMOMETER (C)	
9	CIP CONNECTION (2)	1" NPT
10	SRV(PRESSURE) PIPE TO DRAIN	1" NPT
11	SRV(CONNECTION FOR USER SUPPLIED T&P)	1" NPT
ITEM	MATERIAL	
PIPING	COPPER TYPE "L"	
EXCHANGER PLATE MATL.	T316L SS	
EXCHANGER GASKET MATL.	NITRILE	

HEAT EXCHANGER DETAIL  
NO SCALE

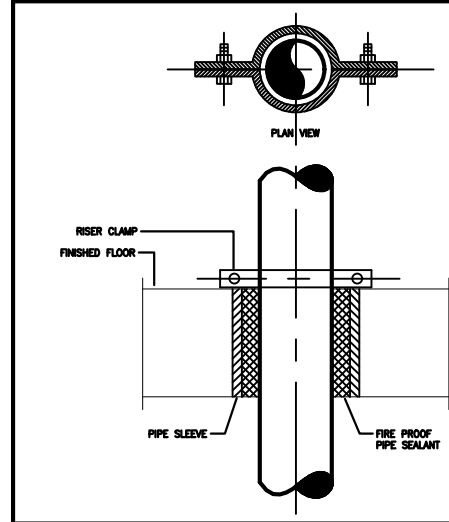
- NOTES:
1. COMPLETE ASSEMBLY LEAD FREE COMPLIANT - THE WETTED SURFACE OF THIS PRODUCT CONTACTED BY CONSUMABLE WATER CONTAINS LESS THAN ONE QUARTER OF ONE PERCENT (0.25%) OF LEAD BY WEIGHT.
  2. PACKAGE INCLUDES ALL REQUIRED INLET CHECK VALVES AND STRAINERS ON DOMESTIC SIDE.
  3. DRV. SAFETY SHUT OFF AND ELECTRICAL PANEL ARE PREWIRED TO PROVIDE A SINGLE ELECTRICAL LANDING POINT AT THE PANEL.



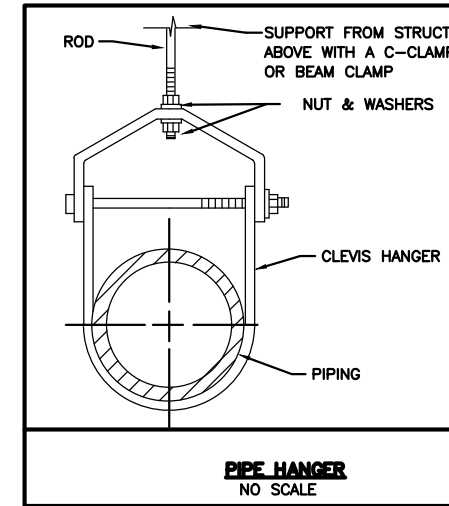
TYPICAL INSTALLATION USING DUPLEX CONTROL PANEL  
NO SCALE



WALL PENETRATION TO RESIST THE PASSAGE OF  
SMOKE DETAIL



PIPE SLEEVE THRU FLOOR SLAB DETAIL



PIPE HANGER  
NO SCALE

#### PLUMBING ABBREVIATION LIST

SYMBOL	DESCRIPTION
AFF	ABOVE FINISHED FLOOR
BLDG	BUILDING
BWV	BACKWATER VALVE
CO	CLEANOUT
DFCO	CLEANOUT DECK PLATE
CV	CHECK VALVE
CW	COLD WATER
CLG	CEILING
CONN	CONNECT
CONT	CONTINUATION
DN	DOWN (PENETRATES FLOOR SLAB)
DR	DRAIN
EX	EXISTING
EL	ELEVATION
FC	FLOOR CONTROL FITTING
FD	FLOOR DRAIN
FFHB	FREEZE PROOF HOSE BIBB
FL	FLOOR
FS	FLOOR SINK
G	GAS PIPING
GAL	GALLONS
GE	GREASE INTERCEPTOR UNIT
GPM	GALLONS PER MINUTE
GW	GREASE WASTE PIPE
GV	GAS VENT
HW	HOT WATER
HWB	HOT WATER REDCIRCULATION
IW	INDIRECT WASTE
L*	LAVATORY (* INDICATES TYPE - SEE SCHEDULE)
G	GAS
MTD	MOUNTED
NTS	NOT TO SCALE
PD	PUMP DISCHARGE
PSI	POUNDS PER SQUARE INCH (GAUGE)
RAC	RUN ABOVE CEILING
RBS	RUN BELOW SLAB
RnS	RUN IN FLOOR SLAB (TRENCH)
RD	ROOF DRAIN
S	SANITARY PIPING
SO	SOLIDS INTERCEPTOR UNIT
ST	STORM PIPING
TYP	TYPICAL
UP	UP (PENETRATES FLOOR SLAB)
V	VENT
VB	VACUUM BREAKER
VF	VERIFY IN FIELD
VTR	VENT THRU ROOF
W	WASTE PIPING
W*	WATER CLOSET (* INDICATES TYPE - SEE SCHEDULE)
WCO	WALL CLEANOUT
WH	WATER HEATER
WTPS	WATER TIGHT PIPE SLEEVE

#### PLUMBING SYMBOL LIST

SYMBOL	DESCRIPTION
---	EXISTING PIPING TO REMAIN
-X- -X- -X-	EXISTING PIPING TO BE REMOVED
---	WASTE PIPE ABOVE FLOOR/SLAB (W) & (CW)
---	WASTE PIPE BELOW FLOOR/SLAB (W) & (CW)
---	SANITARY PIPE ABOVE FLOOR/SLAB (S)
---	SANITARY PIPE BELOW FLOOR/SLAB (S)
---	VENT PIPE (V)
---	EXISTING COLD WATER PIPING
---	COLD WATER PIPING (CW)
---	HOT WATER PIPING
---	HOT WATER RETURN WATER PIPING
---	INDIRECT WASTE PIPING
---	PIPE RISE OR UP THRU FLOOR
---	PIPE DROP OR DOWN THRU FLOOR
---	BOTTOM OF PIPE TAKE-OFF CONNECTION
---	TOP OF PIPE TAKE-OFF CONNECTION
---	CLEANOUT (CO)
---	UNION
---	VALVE IN RISE / VERTICAL
---	P-TRAP
---	DECKPLATE CLEANOUT (DFCO)
---	POINT OF NEW CONNECTION
---	POINT OF NEW DISCONNECTION
---	FLOOR DRAIN
---	BALL VALVE
---	BACKWATER VALVE
---	CHECK VALVE
---	TEMPERATURE & PRESSURE RELIEF VALVE (T&P)
---	VACUUM BREAKER (VB)
---	FAUCET WATER CONNECTION POINT
---	TRAP PRIMER

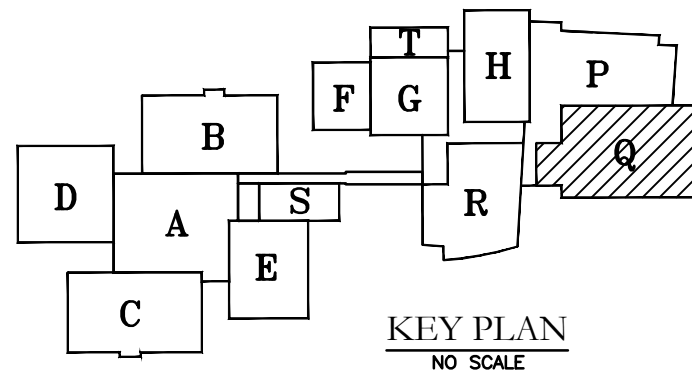
#### PLUMBING EQUIPMENT SCHEDULE

- FD FLOOR DRAIN JOSSAM COMPANY MODEL #26520 WITH CLAMP RING SOLID WATER DAM, 4" OUTLET, CAST IRON W/ 1/2" TRAP PRIMER CONNECTION. INSTALL PER MANUFACTURERS INSTRUCTIONS.
- IP TRAP PRIMER VALVE: PRECISION PLUMBING PRODUCTS MODEL #P-500LP, AUTOMATIC TRAP PRIMER, 1/2" INLET/OUTLET, CHROME PLATED, W/INTEGRAL VACUUM BREAKER. INSTALL PER MANUFACTURERS RECOMMENDATIONS.
- RPZ REDUCED PRESSURE ZONE BACK FLOW PREVENTER: ZURN MODEL #373XL, 2", HORIZONTAL INSTALLATION, PROVIDE HUB DRAIN AT RELIEF PORT. PROVIDE 3" GAP BETWEEN RELIEF PORT AND HUB DRAIN
- P-1 HOT WATER RE-CIRCULATION PUMP, BELLI & GOSSET MODEL# PL-36B, 115V, 60HZ, 1/2 HP, QUANTITY=2
- P-2 DUPLEX SUMP PUMP SYSTEM, ZOELLER MODEL #6189, 2 HP, 140GPM AT 10 FEET HEAD LOSS, 460V, 3 PH, QUANTITY=2, CENTRI PRO BASIN MODEL # A7-3636, CONTROL PANEL CENTRI PRO MODEL #C0034063N1
- HX DOMESTIC WATER HEAT EXCHANGER WATER HEATER, ARMSTRONG DIGITAL-FLO MODEL #DF65W0W50

COMP AIR COMPRESSOR, QUINCY MODEL DE-15, 15 HP, 175 PSI, 51 ACPM CAPACITY. FURNISH AND INSTALL QUINCY OPNC-100 COMPRESSED AIR DRYER ALONG WITH DMF100 AIR FILTER. COMPRESSOR SHALL BE RATED FOR 480V/3/60 VOLTAGE

#### PLUMBING GENERAL NOTES

1. GENERAL NOTES, SYMBOLS LIST AND DETAILS ARE APPLICABLE TO ALL DRAWINGS MARKED P.
2. DRAWINGS ARE DIAGRAMMATIC: DETERMINE LOCATIONS OF SYSTEMS AND COMPONENTS IN FIELD.
3. WORK OF THIS SECTION IS SPECIFIED IN SECTION 22000.
4. NEITHER ACCURACY NOR COMPLETION OF UTILITY LOCATIONS SHOWN ON DRAWINGS IS GUARANTEED. DETERMINE EXACT LOCATIONS OF EXISTING UTILITY IN FIELD, WHETHER OR NOT SHOWN ON DRAWINGS. EXERCISE CAUTION AND IDENTIFY LOCATIONS OF UNMARKED UTILITY LINES AS NECESSARY TO PERFORM WORK OF THIS SECTION.
5. ALL PLUMBING WORK SHALL BE IN ACCORDANCE WITH THE CONNECTICUT STATE PLUMBING CODE AND ALL APPLICABLE LOCAL CODES AND DRAWINGS.
6. IT SHALL BE THE RESPONSIBILITY OF THIS CONTRACTOR TO COORDINATE HIS WORK WITH THAT OF ALL OTHER TRADES, INCLUDING (BUT NOT LIMITED TO), ELECTRICAL, HVAC, PROCESS, PIPING, SPRINKLER, PLUMBING, STRUCTURAL, AND GENERAL ARCHITECTURE.
7. ANY INTERFERENCE SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE, AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
8. NO WORK SHALL BE INSTALLED IN VIOLATION OF ANY GOVERNING CODES. ANY WORK SHOWN ON THE DRAWINGS WHICH IS IN VIOLATION OF SUCH CODES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER AND THE OWNER'S REPRESENTATIVE AND SHALL BE RESOLVED PRIOR TO THE INSTALLATION OF THE WORK INVOLVED.
9. ALL PIPING PENETRATING CEILING AND WALLS SHALL BE INSTALLED WITH CHROME (STAINLESS WHERE NOTED) PLATED ESCUTCHEONS AT THE PENETRATION. ALL PIPING PENETRATING EXTERIOR WALLS AND ROOFS SHALL BE FLASHED IN AN APPROVED MANNER AND SHALL BE SEALED WEATHER TIGHT. PIPING PENETRATING RATED PARTITIONS SHALL BE PROTECTED AS REQUIRED BY LOCAL CODE AUTHORITY (SEE DETAILS).
10. MANUFACTURER'S MODEL NUMBERS ARE SPECIFIED SOLELY TO ESTABLISH STANDARDS OF QUALITY FOR PERFORMANCE AND MATERIALS.
11. PRODUCTION INSTALLATION SHALL ADHERE TO MANUFACTURERS' RECOMMENDATIONS.
12. PROVIDE ACCESS PANELS FOR EQUIPMENT THAT REQUIRES PERIODIC SERVICE.
13. TOPS OF ALL FLOOR DRAINS SHALL BE SET FLUSH WITH FINISHED FLOOR. ALL PIPING ABOVE GRADE SHALL BE PROPERLY SUPPORTED BY THE BUILDING STRUCTURE AND SHALL NOT REST ON FLOOR TILES.
14. PROVIDE SHUTOFF VALVES ON ALL BRANCH PIPING AND ON ALL SUPPLIES TO INDIVIDUAL FIXTURES AND EQUIPMENT. PROVIDE BALL VALVES ON ALL WATER MAIN BRANCHES IN CORRIDORS AND WHERE INDICATED ON DRAWINGS. ALL VALVES SHALL BE ACCESSIBLE.
15. ALL SLEEVES THROUGH CONCRETE FLOORS AND ALL CORE DRILLING OF CONCRETE FLOORS AND WALLS SHALL BE BY THIS CONTRACTOR.
16. SCHEDULE WORK OF THIS SECTION TO AVOID INTERFERE WITH FIRE-PROOFING WORK.
17. COORDINATE ROOF PENETRATIONS WITH WORK OF OTHER SECTIONS AND WITH FLASHING REQUIREMENTS.
18. RUN PIPING CONCEALED, UNLESS SPECIFIED OTHERWISE, AND CLEAR OF CEILING INSERTS.
19. PROVIDE CLAMPS, OFFSETS, EXPANSION JOINTS, ANCHORS AND GUIDES AS NECESSARY TO PREVENT STRESS ON PIPING.
20. PROVIDE VENTS AT HIGH POINTS IN PIPING SYSTEMS AND DRAIN VALVES AT LOW POINTS.
21. PROVIDE GAUGE FITTINGS AND THERMOMETER WELLS AT HOT WATER SUPPLY.
22. VERIFY EXACT SIZES, LOCATIONS, INVERTS AND ELEVATIONS PRIOR TO RUNNING ANY PIPING. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOCATIONS OF ALL FIXTURES AND EQUIPMENT.
23. PIPING SHALL NOT RUN OVER ELECTRICAL PANELS AND SHALL BE COORDINATED WITH WORK OF OTHER TRADES.



1	03-18-19	ISSUE FOR ADDENDUM #1
REV	DATE	DESCRIPTION
252 East Avenue Norwalk, CT 06855 (203) 866-4626 Tel (203) 866-8019 Fax		

BUILDING Q PLUMBING UPGRADES  
GREENWICH HIGH SCHOOL  
10 HILLSIDE RD., GREENWICH CT 06830

SCALE: AS NOTED	APPROVED BY: [Signature]	DRAWN BY: LFG
DATE: 02/01/19	CHECKED BY: LFG	

#### PLUMBING SYMBOLS, DETAILS AND NOTES

FILE NAME: LDIB-DWG	JOB NUMBER:	DRAWING NUMBER: P-001
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